POLYSYNTHESIS IN THE LANGUAGES OF THE AMERICAN INDIANS.

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In the early part of this century Peter S. Duponceau announced his conviction, obtained from a cursory study of the scanty and imperfect linguistic material accessible to him, that the grammatic phenomena of the known tongues of the American Indians are characterized by a common ground plan, or, adopting a phrase of Maupertuis, a "plan of ideas." This plan he called *polysynthetic* or *syntactic*, and defined it as follows:

"A polysynthetic or syntactic construction of language is that in which the greatest number of ideas are comprised in the least number of words. This is done principally in two ways. 1. By a mode of compounding locutions which is not confined to joining two words together, as in Greek, or varying the inflection or termination of a radical word, as in most European languages, but by interweaving together the most significant sounds or syllables of each simple word, so as to form a compound that will awaken in the mind at once all the ideas singly expressed by the words from which they are taken. 2. By an analogous combination [of] the various parts of speech, particularly by means of the verb, so that its various forms and inflections will express not only the principal action, but the greatest possible number of the moral ideas and physical objects connected with it, and will combine itself to the greatest extent with those conceptions which are the subject of other parts of speech, and in other languages require to be expressed by separate and distinct words. Such I take to be the general character of the Indian languages." *

He elsewhere says:

"I am inclined to believe that these forms are peculiar to this part of the world, and that they do not exist in the languages of the old world." †

In an essay, which won, in 1833, the Volney prize of the Institute of France, he says:

"À l'aide d'inflexions, comme dans les langues grecque et latine, de particules, affixes et suffixes, comme dans le copte, l'hébreu et les langues dites sémitiques, de la jonction de particules significatives, comme

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* Transactions of the Historical and Literary Committee of the American Philosophical Society, for promoting useful knowledge, vol. i, p. xxx.
† Loc. cit., p. 370.

dans le chinois, et enfin de syllabes et souvent de simples lettres inter-
calées à l'effet de réveiller une idée de l'expression de laquelle cette
lettre fait partie, à quoi il faut ajouter l'ellipse, qui fait sousentendre, les
Indiens de l'Amérique sout parvenus à former des langues qui compren-
neut le plus grand nombre d'idées dans le plus petit nombre de mots
possible.   Au moyen de ces procédés ils peuvent changer la nature de
toutes les parties du discours ; du verbe, faire un adverbe ou un nom ; de
l'adjective ou du substantif, un verbe ; enfin, tous les auteurs qui ont
écrit sur ces langues avec connaissance de cause, depuis le nord jusqu'au
sud, affirment que, dans ces idiomes sauvages, on peut former des mots à
l'infini." *

If a general principle of the kind here described could be estab-
lished it would be of the utmost importance to the students of com-
parative grammar.   This, however, can be done only by a careful
and thorough analysis by the modern methods of linguistics of every
language concerned, an analysis which has not yet been made.
For such an analysis trustworthy and sufficient data must also be at
hand.

The lexic and syntactic material relating to these languages is, in
some instances, quite extensive, consisting mostly of short vocabu-
laries, translations of the Holy Scriptures or portions thereof, and
more or less pretentious lexicons and grammars ; but, for the pur-
pose of comparative or other study, these are so faulty and mislead-
ing and so warped by erroneous theories and misapprehensions that
they are of small value and of precarious utility in morphologic
study.   The learned Father Cuoq, equally well-versed in Iroquoian
and Algonquian speech, says :

"Que penser de certaines traductions des Stes.'Écritures ?   Ceux qui
ont tant soit peu étudié les différentes portions de la Bible traduites dans
les langues indiennes de l'Amérique par les soins de certaines *Sociétés
Bibliques*, en trouvent la traduction—il m'est pénible de le dire—vrai-
ment pitoyable.   Ce n'est rien moins qu'une profanation de la parole de
Dieu ; et je suis assuré pour ma part que les membres eux-mêmes de ces
sociétés seraient les premiers à répudier leurs pauvres publications et à
les condamner aux flammes, s'ils connaissaient les incorrections, les in-
exactitudes, les solécismes, les barbarismes, et les contre-sens dont elles
fourmillent." †

Duponceau had no ready means of testing the work of his chief
authorities, and so was compelled to accept their unsupported state-

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* Mémoire sur le système grammatical des langues de quelques nations indiennes de
l'Amérique du nord.   Paris, 1838, p. 89.

† "Jugement erroné de M. Ernest Renan sur les langues sauvages," p. 105.

ments and deductions.   He drew his information of the Iroquoian language from the works of Zeisberger and Pyrlaeus, chiefly those of the former.   A careful and unbiased examination of Zeisberger's work shows that the worthy missionary had at best only a superficial and precarious knowledge of that language, for he lacked the very elementary acquaintance with it which would have enabled him invariably to distinguish its words from their derivatives and from its sentences and phrases.

The method of inflections, which is common to European and other tongues, need not detain us; the method of intercalation or interweaving vocal elements claimed to be peculiarly characteristic of the polysynthetic scheme demands some consideration.   Had it a substantial basis of fact it would indeed serve to mark off from all others those languages in which it was found to prevail.   The use of a process so singular and abnormal in its operation can be established only by the evidence of unequivocal facts.   The data adduced as proof that such a method of combining vocal elements is one of the most characteristic traits of all known Indian tongues are of the most questionable character.   This process is not a part of Iroquoian grammar, nor has a satisfactory example of it been cited from Algonquian speech, and Rev. J. Owen Dorsey states that it does not find a place in the Siouan grammatic processes; hence it follows that the languages of these three great stocks are not polysynthetic within the meaning of this term as used by Duponceau, because they do not use the so-called "artificial elements" nor the alleged process of "interweaving together" or "intercalation" of vocables, which alone constitute the characteristic traits of the supposed "polysynthetic construction."   This raises the presumption that careful study will show that other less-known Indian tongues, which, like the three named above, have been classed as polysynthetic by Duponceau and his disciples, are not founded on that theoretic plan; because wherever the syntactic and morphologic processes have been ascertained from accurate and sufficient data they have been found at variance with the polysynthetic processes, and they likewise differ greatly among themselves in their ground plans. It has, in fact, been found that those Indian languages whose lexic and syntactic phenomena have been thoroughly analyzed have not, as Duponceau maintained, a peculiar construction of language, in which "the greatest number of ideas are comprised in the least number of words," which is the motive or object of his conjectured ground plan or "plan of ideas."

Duponceau further says:

"Les Indiens, surtout ceux qui sont chasseurs et nomades, n'ont pas une tête bien analytique. Ils se sont bientôt embrouillés dans la formation de leurs mots : recevant leurs idées en groupes, ainsi que la nature nous les présente, ils ont voulu les exprimer à la fois avec toutes leurs parties, telles qu'ils les apercevaient.* Ont-ils voulu, par exemple, donner un nom à un certain arbre, ils n'ont pas pensé à le désigner simplement par le fruit, ou par quelque autre apparence unique ; mais ils ont dit : *l'arbre portant tel fruit et dont les feuilles ressemblent à telle chose*, et ils ont cherché à exprimer tout cela par un seul mot. Mais comment faire ? S'ils joignaient tous ces mots ensemble, ils en auraient un nouveau d'une longueur énorme ; et puis, leur nouvelle langue, abondant en consonnes, n'etait pas heureusement formée pour une pareille jonction. Alors ils ont pris quelque chose de chaque mot, et par la réunion et l'intercalation des syllabes, et même de sons simples tirés de la phrase qu'ils avaient choisie, ou plutôt des mots incohérens qui la présentaient à leur esprit, ils ont formé un nom propre composé de ces différentes parties d'idées ; et pour celles qu'ils n'ont pu y faire entrer, l'ellipse est venue à leur sécours. * * * Ce qui nous paraît le plus probable, est que les langues, comme le monde, ont commencé par le chaos, et ont acquis de la régularité plus tôt ou plus tard, sous une forme ou une autre, selon le génie des peuples, leurs situations ou leurs besoins. Celles des Indiens de l'Amérique du nord ont retenu beaucoup de ce genre chaotique qui a dû présider à leur formation. Les parties du discours y sont entremêlées d'une manière qui fait croire qu'elles n'ont pas toujours été soumises aux règles qui les gouvernent actuellement et qui, introduites peu à peu, n'ont pu que modifier, sans le détruire, le système de formation des mots qui paraît avoir prevalu dès le commencement.

"Ce système polysynthétique est ce qui caractérise les langues algonquines, ainsi que toutes celles de l'Amérique, et influe nécessairement sur leurs formes grammaticales, qui ne diffèrent que dans les détails."

To this he adds the following foot-note :

"La plus forte preuve qu'on puisse donner du mélange d'idées qui a existé au temps de la formation de ces langues, est le nombre de mots qu'elles ont pour exprimer la même chose, selon les circonstances qui l'accompagnent. Il y a un verbe pour dire 'j'ai envie de manger de la viande,' et un autre pour 'j'ai envie de manger de la soupe ou de la bouillie ;' un mot, pour une plaie faite avec un instrument tranchant ; un autre, pour une plaie faite avec un instrument contondant ; ces langues généralisent rarement." †

In support of these striking statements Duponceau has produced no trustworthy proofs. He has adduced only the most fanciful

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*This is in substance the doctrine of holophrasis, to which attention will be given hereafter.

† Mémoire, pp. 118–120.

reasons to support his conviction that the Indian languages still preserve the "chaotic style" which "seems to have prevailed from the beginning." The intermixture of the parts of speech does not follow from the fact that a language can in a word-sentence say, "I desire meat," or "I desire soup," and can distinguish between a "cut" and a "bruise." Such word-sentences are governed by certain fixed laws of position and sequence of stems.

The usual method of obtaining a vocabulary from an unlettered people is largely responsible for the doctrine that Indians rarely generalize. A savage is asked, How do you say "I eat meat," or "I drink soup?" and, if he understands the question, he replies by the appropriate sentences (not words, as many think), meaning, in his own vernacular, "I eat meat," or "I drink soup." He can distinguish between a *cut* and a *bruise*, and shows it by his language, but must it be inferred from this that he cannot generalize, or that he does it but rarely?

The materials of the language of the Iroquois consist of notional words, namely, nouns, verbs, and adjectives; representative words, namely, prefixive and independent pronouns; relational words, adverbs, conjunctions, and suffixive prepositions; and derivative elements, namely, formatives and flexions.

The distinctive nature and characteristic functions of these elements cannot be changed at will by any speaker, for the good and sufficient reason that a language does and can do only what it is in the habit of doing. In the category of notional words, the class of elements called noun-stems may not indifferently assume the functions and the flexions peculiar to either the verb-stems or the adjective-stems, neither can the verb-stems nor the adjective-stems indifferently assume the functions and the flexions peculiar to either of the other two classes of elements in that category; hence Duponceau's sweeping statement concerning the general character of the American Indian languages, that "they can change the nature of all parts of speech; of the verb, make an adverb or a noun; of the adjective or substantive, a verb," is not true of the Iroquoian tongue. The elements of its lexicon have acquired their individual values by virtue of a series of historical changes, and they severally retain these values solely at the behest of conventional usage, being subject at all times to further mutations of form and signification as this usage may decree.

The stems of words and word-sentences are not divided for any

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purpose whatever. The compound stems of word-sentences may, by historical changes, become parts of speech—notional terms— denotive of the things described by the word-sentences from which they are derived, and they can be so considered only when the linguistic sense has come to disregard the separate meanings of the elements thus combined. This is *parasynthesis*.* A prolific source of much error concerning the nature of the grammatic processes prevailing in this language is the fact that these word-sentences are mistaken for words, for a word-sentence must, it is repeated, undergo certain historical changes of form and function before it becomes a word—a part of speech. Conventional usage alone is the arbiter in this, as it is in all things linguistic.

To exemplify this the following concise analysis of the stems of a verb and a noun is given. The verb-stem selected is -*hĕⁿs-yĕⁿ*, from the word-sentence *ru-hĕⁿs'-yĕⁿ*, "he hears, understands (by hearing)," and the noun stem is -*thĕtc-hră-kwĕ*, from *ut-hĕtc-hră'-kwĕ*, "a chair, seat." These two stems have been chosen solely for the reason that their constitutive elements have not yet undergone that degree of effacement which would render them quite irrecognizable to any but an accomplished master of the language.

The full and original form of *ut-hĕtc-hră'-kwĕ* was *ut-hĕtc-hĭ-hră'-kwĕ*, which was evidently derived from the word-sentence *yĕⁿt-hĕtc-hĭ-hră'-khwă'*, "one (some one) uses it to support his buttocks," in which the pronominal element is *yĕⁿt-* (which is the reflexive form of -*yă-*, "one or she "), meaning "one-his " or "she-her," the reflexive performing a possessive and not a reflexive office ; the noun-stem is -*hĕtc-hĭ*, from *u-hĕtc'-hĕ*, "buttocks, fundament," and, lastly, the verb -*hqră-khwă'*, "to support with," "to use for supporting," or "to use to support." This verb-stem is from the word-sentence *ra-hqră'-khwă'*, "he uses it for supporting (it) " or "he supports it with (it)," in which the "it " enclosed in parenthesis is understood. These two notional stems, -*hĕtc-hĕ* (fundament) and -*hqră-khwă'* (to support with, use to support), then form the compound stem of the word, *ut-hĕtc-hqră'-kwĕ*, "chair, stool ; " but both stems themselves may be still further reduced to show the original ideas which combined to form them. The verb-stem chosen is -*hĕⁿ-syĕⁿ*, from the simple sentence *ru-hĕⁿ'-syĕⁿ*, "he hears it," or simply, "he hears, understands (by hearing)." The com-

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* The formation and derivation of a word from a compound.

ponents of this stem are -*hĕⁿs*- and -*yĕⁿ* ; -*hĕⁿs*- is the stem of the archaic *u-hĕⁿʹ-sĕ*, " the ear," and -*yĕⁿ* is the verb " to enter " of the sentence *raʹ-yĕⁿ*, " he enters." Hence, " to hear " is made up of the ideas " to enter-ear," but before these two notions could be rendered by " hear " usage had to disregard their several and separate meanings. Moreover, the stem -*hqră-khwă'*, meaning as a morphologic unit, " to support with," " to use for supporting," or " to use to support," is in its more literal meaning itself the result of the forgetting of the etymologic elements of a compound. It is made up of the stems -*hĕqr*, from *raʹ-hĕqr*, " he puts (it) upon," and the auxiliary -*khwă'*, " to do, make," hence, " to use," the object of the auxiliary being always " it " understood, its object being of course indicated by the context.

The pronominal elements prefixed to the stems of words and word-sentences perform one of two offices : first, they may be prefixed to noun-stems for the purpose of indicating gender or possession ; and, second, they may name determinatively the things of which it is required that notional stems be made names or predicates.

In Iroquoian speech all the developments of the language expressed by the terms word-sentence, stem-formation, and inflection, are based primarily on the well-known principle of juxtaposition and a more or less intimate fusion of elements, but the living and traditional usage of the language has established the following morphothetic* canons, which determine the nature and the relative position or sequence of elements that may be combined into words, phrases, and word-sentences, namely :

First. The simple or compound stem of a notional word or of a word-sentence may not be employed isolatedly without a prefixed simple or complex personal pronoun or a gender sign or flexion.

Second. Only two notional stems may be combined in the same word-sentence, and they must not be of the same part of speech.

Third. The stem of a verb or adjective may be combined with the stem of a noun, and the stem of the verb or adjective must be placed *after* and never *before* the noun-stem.

Fourth. An adjective-stem may not be combined with a verb-stem, but it may unite with the formative auxiliary -*thă'*, *to cause* or *make*, and with the inchoative -*ç..*

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* From morphothesis, the principle or law fixing not only the sequence but also determining the kind and number of elements which may be embodied in a word-sentence, and also the morphology thus established.

Fifth. A qualificative or other word or element may not be interposed between the two combined stems of notional words, nor between the simple or compound notional stem and its simple or complex pronominal prefix, derivative and formative change being effected only by prefixing or suffixing suitable flexions and formatives to the forms fixed by the foregoing canons.

The following formulas, with examples, chiefly from the Mohawk and Onondaga dialects, will show the application of the preceding canons in the building of words and word-sentences:

Simple Words.

(I.) Pronoun + verb-stem.

In the following examples the pronominal element is separated from the stem by a hyphen.

ka'-riks, it bites (it);	ka'-kĕⁿ, it sees (it);
yo'-riks, it bites it;	yo'-kĕⁿ, it sees it;
ye'-riks, she bites (it);	ye'-kĕⁿ, she sees (it);
ra'-riks, he bites (it);	shako'-kĕⁿ, he sees them;
shako'-ryos, he kills them;	ra'-yă'ks, he breaks, cuts it.

The final "s" in some of the examples is the sign of customary action and not a part of the verb-stem.

(II.) Pronoun + noun-stem.

In these examples the hyphen divides the pronominal element from the notional stem.

o-noⁿ'să', or	o-koⁿ'să', or
ka-noⁿ'să', a house; house;	ka-koⁿ'să', a face or mask;
o-roⁿ'hyă', or	o-roñ'tă', or
ka-roⁿ'hyă', sky, the sky;	ka-roñ'tă', a tree or log;
o-qsĭ''tă', a foot, the foot;	o-hne'kă', water; liquid.

(III.) Pronoun + adjective-stem.

In these examples the hyphen separates the pronominal element from the stem.

ka-hoñ''tci, it is black;	ka-no'roⁿ', it is costly, dear; scarce; deplorable;
wa-katc'te', it is durable, lasting;	(w)a'-se', it is new; green;
iw'-es, it is long;	(w)a-ka'yoñ', it is old, ancient;
w-i'yo, it is fine, beautiful;	(y)o-ya'ne', it is good; proper.

Compound Notional Stems.

(IV.) Pronoun + noun-stem + verb-stem.

In the following examples the pronominal, nominal, and verbal elements are separated one from another by hyphens.

ra-roñt'-yă'ks, he cuts, breaks, the tree or log;

ra-hy-ŭskwăs, he plucks fruit;

ka-hĕq'na-nĕⁿs'kwăs, it poaches on the field;

ye-'wăhrĭ'-saks, she seeks meat; is looking for meat;

ra-noⁿs'-ĕñtĭ, he is building a house;

ye-the'tcr-oñnĭs, she makes flour;

wă-skwĭ'-yă'ks, it crosses the bridge;

ye-noⁿkwă'tcra-yĕñteri, she understands medicine.

(V.) Pronoun + noun-stem + adjective-stem.

The hyphen is used in the following examples as it has been in those under preceding formulas, to separate the elements of the compound or word-sentence.

wa-hya'-ksĕñ, (it) fruit is bad;

ka-nĕⁿsa'. kwăst, (it) house is good;

yu-hĕq nă-kwăst, its crop (field) is good;

ka-noⁿs'-iyo, (it) house is large;

wa-hya-hĕⁿs'tci, (it) fruit is black;

yo-qsă'-hni-roⁿ, its foot is firm;

yu-qsă'-ksĕñ, its foot is bad.

The pronoun *it* enclosed by parentheses is a gender sign only or is understood. Being definitive, it may often be rendered by " *the.*"

These morphothetic rules establish and govern the morphology or ground-plan of Iroquoian words and word-sentences, and any violation of these rules by a speaker in forming combinations of vocal elements necessarily produces a meaningless assemblage of articulate sounds. For instance, to combine two nouns, two verbs, or two adjectives in the same compound would not constitute the one noun, verb, or adjective a predicate or qualifier of the other member of the combination.

In speaking of what he is pleased to call the original structure of the American Indian tongues and of the numerous novel forms with which he claims they abound, Duponceau says:

" It is impossible to resist the impression which forces itself upon us, that we are among the aboriginal inhabitants of a *New World*. We find

a *new* manner of compounding words from various roots, so as to strike the mind at once with a whole mass of ideas; a *new* manner of expressing the cases of substantives, by inflecting the verbs which govern them; a *new* number (the particular plural) applied to the declension of nouns and conjugation of verbs; a *new* concordance in tense of the conjunction with the verb. We see not only pronouns, as in the Hebrew and some other languages, but adjectives, conjunctions, and adverbs combined with the principal part of speech and producing an immense variety of verbal forms." *

This alleged *new* manner of compounding words, the so-called polysynthetic scheme, has already been shown to be erroneous and unfounded in fact, since the morphologic processes of those Indian languages which have been critically analyzed do not correspond or accord with the theoretical processes distinctive of the scheme, nor do the morphologic processes prevailing in one tongue accord with those common to another in so marked a degree as to warrant the inference that they are based on a common principle or ground-plan differing essentially from fundamental principles common to languages of the old hemisphere.   Concerning the *new* manner of expressing the cases of nouns by inflecting the verbs which govern them, it may be said that it is not true of the Iroquoian tongue; besides, such a process would imply that there exists a provision for what is still undeveloped and non-existent in many of the Indian languages—a nominal case-ending; the fact being, in most instances, that the noun is in apposition with an objective pronoun forming an integral part of the person-endings of the verb; by this means the relation of the noun to the action of the verb is indicated. In other instances the position of a noun in a word-sentence determines its "case;" in others it is determined by the pronoun with which it is in apposition.   In regard to a *new* number, the particular plural, it will suffice to say that it is both Asiatic and European, and to that extent not a distinctive trait of the American Indian languages.   It is thus evident that this array of new methods and novel means is the product of misapprehension and insufficient investigation.   Duponceau's fundamental error lay in the fact that he attempted to classify all known Indian tongues under a hypothetical system based chiefly on a superficial study of Algonquian morphologies, before he had made a thorough investigation of the morphologies of the other Indian tongues involved.   His whole

* Transactions, p. xxxviii.

conception of language was erroneous. For instance, speaking of Indian speech, he says:

"L'organisation intérieure du mot est à la discrétion de l'inventeur. S'il a des règles à suivre, ce sont des règles de goût et non de grammaire. Presqu' entièrement, c'est l'oreille qui en décide ; les changemens et transpositions de syllabes et de sons restent à sa disposition, comme les inversions des mots de la langue latine sont à celle de l'homme qui parle ou écrit dans cet idiome." *

No critical linguistic student could consistently hold such views of language and its processes. This statement, besides, is scarcely in accord with what he had previously remarked in his Report, where he says:

"Nor can this class of languages be divested, even in imagination, of the admirable order, method and regularity, which pervade them ; for it is evident that without these, such complicated forms of language could not subsist, and the confusion which would follow would render them unfit even for the communication of the most simple ideas. A simple language may be, perhaps, unmethodical ; but one which is highly complicated, and in which the parts of speech are to a considerable degree interwoven with each other, I humbly conceive, never can." †

The former of these assertions, making the interior form of a word the plaything of the caprice of every speaker's whim and fancy, represents his opinion after more than ten years' study of the languages, and the latter after not more than three, showing that the longer he studied, the less clearly did he comprehend them. Many students have adopted the term *polysynthetic* as a designation of the Indian languages, but, apparently, without taking the precaution to learn the exact sense in which Duponceau himself employed it, or to ascertain whether such a scheme of classification was warranted by the grammatic facts of these languages. In explanation of his use of it he says that the Indian languages belong to "the class which I have denominated *polysynthetic* merely for the sake of designation and without meaning to affix any other importance to the name." ‡

It thus appears that he employed the term without direct reference to its etymologic meaning and merely as a tag or label for a theoretic scheme of classification, which he believed epitomized the

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* Mémoire, p. 145.
† Op. cit., p. xxvii.
‡ Op. cit., p. xxxvi.

fundamental principles of morphology underlying the structures of the American Indian languages. It should be discarded, since its further use only perpetuates his errors.

In an essay, entitled " Polysynthesis and Incorporation as Characteristics of American Languages," Dr. D. G Brinton attempts to show that F. Müller, L. Adam, and others fail to comprehend what he himself believes to be Duponceau's conception of a "polysynthetic construction of language." He says:

"I believe that for the scientific study of language, and especially of American languages, it will be profitable to restore and clearly to differentiate the distinction between polysynthesis and incorporation, dimly perceived by Duponceau and expressed by him in the words already quoted. With these may be retained the neologism of Lieber, *holophrasis*, and the three defined as follows :

"*Polysynthesis* is a method of word-building, applicable either to nominals or verbals, which not only employs juxtaposition with aphæresis, syncope, apocope, etc., but also words, forms of words and significant phonetic elements which have no separate existence apart from such compounds. This latter peculiarity marks it off altogether from the processes of agglutination and collocation.

"*Incorporation (Einverleibung)* is a structural process confined to verbals, by which the nominal or pronominal elements of the proposition are subordinated to the verbal elements, either in form or position ; in the former case having no independent existence in the language in the form required by the verb, and in the latter case being included within the specific verbal signs of tense and mood. In a fully incorporative language the verbal exhausts the syntax of the grammar, all other parts of speech remaining in isolation and without structural connection.

"*Holophrasis* does not refer to structural peculiarities of language, but to the psychological impulse which lies at the root of polysynthesis and incorporation. It is the same in both instances—the effort to express the whole proposition in one word. This in turn is instigated by the stronger stimulus which the imagination receives from an idea conveyed in one word rather than in many."   *   *   *

"As the holophrastic method makes no provision for the syntax of the sentence outside of the expression of action (*i. e.*, the verbal and what it embraces), nouns and adjectives are not declined. The ' cases' which appear in many grammars of American languages, are usually indications of space or direction, or of possession, and not case-endings in the sense of Aryan grammar.

"A further consequence of the same method is the absence of true relative pronouns, of copulative conjunctions, and generally of the machinery of dependent clauses."

All this doubtless has a certain plausibility so long as it is tested solely by the faulty and equivocal works of the pioneers in American Indian philology ; but, by the light of the facts of language which are gradually being made available, these polysynthetic dogmas are being dissipated.

Dr. Brinton's definition of polysynthesis is clearly defective and incomplete.   There is an omission of the name or names of the elements subject to "juxtaposition," and also of the term co-ordinate with "juxtaposition" and expressive of a *process* contrary or co-relative to that of "juxtaposition," two very important omissions in a definition designed to "clearly differentiate the distinction between polysynthesis and incorporation, *dimly* perceived by Duponceau."   But, as Dr. Brinton was merely recasting and remoulding the first section of Duponceau's definition of a polysynthetic construction of language, the omitted process, judging from this fact and from other parts of Dr. Brinton's essay, is that affirmed by Duponceau to consist in the "intercalation" or "interweaving together the most significant sounds or syllables of each simple word" and the various "parts of speech, particularly by means of the verb." The alleged process of intercalation or interweaving together of vocal elements has already been shown to be mere hypothesis and unfounded in the known facts of Indian languages.   Moreover, Dr. Brinton tells us that agglutination and collocation differ from polysynthesis in not using "words, forms of words and significant phonetic elements which have no separate existence apart from such compounds."   If this statement were substantiated by facts, it would pass unchallenged ; but it is to be doubted that "agglutination and collocation" do not employ, in the polysynthetic sense, "words, forms of words," which have no existence outside of compound forms.   Even in the English, which is agglutinative in some of its forms, such nouns as *sooth* and *wise* are practically obsolete in current speech, although in use in compound forms ; hence, must it be inferred that they never had an independent existence in the language?   Not at all.   In the obsolescence of words and forms they will maintain an existence in certain quaint or striking phrases or compounds when they have lost their adaptability for current and new formations.

It may be stated that "significant phonetic elements" form no part of the linguistic material of Indian languages any more than they do of that of the Indo-European languages.   Words and sounds

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in Indian as in other languages have no intrinsic signification apart from that imposed on them by the common usage of the community.

The apparent abbreviation of nouns in derivative words and word-sentences which has given rise to some of these misleading designations may be explained by the fact that those who attempted to define the methods of derivation and combination of vocal elements took noun-stems from prepositional and other phrases or from word-sentences wherein those students have perchance found the stem for which they sought, overlooking the fact that language does not make decomposition an antecedent condition to other composition. Again, in some languages the gender-sign is usually discarded from the noun-stem when the stem is united with another to form a new compound.

From Dr. Brinton's definition of incorporation—the process of intercalation or interweaving together of Duponceau—it follows that where no conscious or artificial mutilation of notional stems takes place in the compound there is no subordination, and so to that extent no incorporation ; that where no modal or tensal flexions are affixed to the word-sentence in such manner as to give the pronominal and nominal elements—the person-endings and the noun-stems—the appearance of being infixed or enclosed between those elements and the verb stem, there is likewise no incorporation. These changes are not made in the simple tenses of the Iroquoian indicative mode, showing that the combination of the notional stems is a condition antecedent to the affixion of modal and tensal flexions to the word-sentence.   The fatal error of this doctrine of incorporation lies in the fact that it places flexions and formatives on an equality with notional stems in the expression of thought, making flexions and formatives an integral part of the semasiologic difference between two expressions or word-sentences composed of unlike notional stems, for it is not the flexions but the notional stems which, from the standpoint of morphology, give to every word-sentence its semasiologic individuality.   So that testing the question by Dr. Brinton's definition of what constitutes incorporation as he conceives it was dimly perceived by Duponceau, there is in the ground-forms of Iroquoian words and word-sentences no trace of incorporation ; for it is not a question of the affixion or suffixion of elements to a root or stem, but merely the use of a system for that purpose.

The statement that the word-sentence exhausts the syntax of the language in which the principle of incorporation prevails, that "no provisions for the syntax of the sentence outside of the expression of action (*i. e.*, the verbal and what it embraces)" are made, is unwarranted so far as the Iroquoian, Siouan, Athapascan, and Algonquian languages are concerned. The employment by these languages of correlatives, relative and coördinate pronouns and conjunctions, and prepositional phrases is ample refutation of such claim. Facts like these show on what an unsubstantial basis was erected the hypothetical polysynthetic scheme of Duponceau and his followers.

Dr. Brinton affirms that incorporation consists in subordinating the nominal and pronominal elements of the proposition to the verbal in one of two ways: first, by a mutilation of form, and, second, by position. In the first case the noun or pronoun must assume a form which it does not have apart from such compounds, and in the second it must be placed between the signs of mode and tense on the one hand and the verb-stem on the other. In Sanscrit, an Indo-European language, the person-endings which are admittedly pronominal in origin do not have the form of the pronouns when apart from the compounds to which they are affixed. Moreover, they may be inserted between the verb and its adverbial qualifiers in the proposition.

In section 249 of his Sanscrit Grammar Prof. Max Müller says:

"The comparative is formed by *tara* or *iyas;* the superlative by *tama* or *ishtha*. These terminations, *tara* and *tama*, are not restricted in Sanscrit to adjectives. Substantives, such as *nri*, man, form *nritamah*, a thorough man; *stri*, woman, *stritara*, more of a woman. Even after case-terminations or personal-terminations *tara* and *tama* may be used; thus from *purvahne*, in the forenoon; *purvahnetare*, earlier in the forenoon (Pan., vi, 3, 17); from *pachati*, he cooks; *pachatitaram*, he cooks better (Pan., v, 3, 57); *pachatitamam*, he cooks best (Pan., v, 3, 56)."

Here the pronominal elements, the person-terminations, and even the case-endings are inserted (to use the language of polysynthesis) between the notional stem and its adjectival and adverbial adjuncts. This is within the purview of Dr. Brinton's definition of incorporation, the subordination of the pronominal elements both in form and in position surpassed by nothing from American languages. Is, therefore, the Sanscrit based on a model common to the aboriginal American tongues? If modern instances of this

"incorporation" and the synthetic capacity for compounding words be necessary, let us turn to the abundantly synthetic structure of modern Russian, which exemplifies the important fact that in the Indo-European family, of which the Russian is a member, the tendency has not been "everywhere and in all respects downward, toward poverty of synthetic forms, throughout the historic period." Of the structure of this language Prof. W. D. Whitney says:

"The Russian of the present day possesses in some respects a capacity of synthetic development hardly, if at all, excelled by that of any ancient tongue. For example, it takes the two independent words *bez Boga*, 'without God,' and fuses them into a theme from which it draws a whole list of derivatives. Thus, first, by adding an adjective suffix, it gets the adjective *bezbozhnüï*, 'godless;' a new suffix appended to this makes a noun, *bezbozhnik*, 'a godless person, an atheist;' the noun gives birth to a denominative verb, *bezbozhnichat*, 'to be an atheist;' from this verb, again, come a number of derivatives, giving to the verbal idea the form of adjective, agent, act, and so on : the abstract is *bezbozhnichestvo*, 'the condition of being an atheist ;' while, once more, a new verb is made from this abstract, namely *bezbozhnichestvovat*, literally 'to be in the condition of being a godless person.' A more intricate synthetic form than this could not easily be found in Greek, Latin, or Sanscrit; but it is no rare or exceptional case in the language from which we have extracted it; it rather represents, by a striking instance, the general character of Russian word-formation and derivation." *

This, Professor Whitney holds, shows the futility of attempting to maintain that there has been "an uninterrupted and universal reduction of the resources of synthetic expression among the languages of the Indo-European family," demonstrating conclusively that even the members of a linguistic family differ in synthetic capacity.

These examples of the synthetic power in the Sanscrit and Russian languages show that the synthesis of a large number of elements into the form of a word is not a trait peculiar to the Indian languages; Duponceau and his followers maintain not only that this exuberant synthetic capacity prevails in all known Indian tongues, but also that all these synthetic forms are based on one common model distinctively peculiar to these aboriginal languages; but, if Dr. Brinton's definition of what constitutes incorporation be accepted, then the Sanscrit and the Russian may be confidently said

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* Language and the Study of Language, p. 281.

to form their words and word-sentences on the theoretic ground-plan conjectured to be the pattern of all the grammatic structures of the American Indian tongues.

Can it, therefore, be asserted that the Sanscrit, the Russian, and their congeners belong to a family of languages based on a model common to that of the American Indians? As there is no ground-plan common to all the well-known Indian tongues, such an assertion cannot well be made. They, like the languages of the old hemisphere, have traits which are found in the majority of languages and they also individually have others which are idiomatic.

Again, Dr. Brinton says:

"As the effort to speak in sentences rather than in words entails a constant variation in these sentence-words, there arises both an enormous increase in verbal forms and a multiplication of expressions for ideas closely allied. This is the cause of the apparently endless conjugations of many such tongues, and also of the exuberance of their vocabularies in words of closely similar signification. * * * Languages structurally at the bottom of the scale have an enormous and useless excess of words. The savage tribes of the plains will call a color by three or four different words, as it appears on different objects. The Eskimo has about twenty words for fishing, depending on the nature of the fish pursued. All this arises from the 'holophrastic' plan of thought."

But Dr. Brinton does not show this by the convincing method of citing unequivocal facts of language. He evidently overlooks the impossibility of speaking in words without the use of sentences. What evidence has he adduced to prove that the structure of any one Indian tongue is the product of an "effort" to speak in some specific manner. The truth of the matter is that the speakers of Indian languages are just as powerless consciously to change the habits of their several idioms as are the speakers of Indo-European and other tongues.

The statement that certain Indian tongues call a color by three or four different names as it appears on different objects is due to erroneous information. The explanation of this difficulty is this: the three or four different names or words are not names of only one color, but rather of as many colors, or, strictly, as many shades of the same color as have received appellations in the language in question. In the English, one says "a gray horse," but "a dun cow;" "a bay horse," but "a red apple;" "a yellow dog," but "a hazel eye," etc.

The other remark, stating that the Eskimo possesses twenty words for fishing, " dependent on the nature of the fish pursued," is to be explained in a similar manner, because it is obvious that the *different means* and *methods* of fishing necessarily require *different* words for their designation. In like manner the Missionary Butrick, who preceded Jarvis and Pickering, stated that the language of the Cherokees, owing to its incapacity for generalization, has fourteen verbs to denote washing different things, but no verb to denote washing in general. An analyzation of the fourteen examples given shows that they are not all verbs denotive of washing ; some signify " to swim," others " to soak," others " to wet or sprinkle," and still others " to boil," which, of course, it would be folly to classify among the verbs meaning to wash or lave. Thus, a rational explanation is supplied for what appeared to be an anomaly in language.

In speaking of the elements used in polysynthesis and incorporation Dr. Brinton says (*op. cit.*) :

"As polysynthetic elements we have the inseparable possessive pronouns which in many languages are attached to the names of the parts of the body and to the words for near relatives ; also the 'generic formatives,' particles which are prefixed, suffixed, or inserted to indicate to what class or material objects belong ; also the 'numeral terminations' affixed to the ordinal numbers to indicate the nature of the objects counted ; the negative, diminutive, and amplificative particles which convey certain conceptions of a general character, * * * but are generally not words themselves, having no independent status in the language. They may be single letters or even merely vowel-changes and consonantal substitutions, but they have well-defined significance."

Again (*op. cit.*), he says :

"Although in polysynthesis we speak of prefixes, suffixes, and juxtaposition, we are not to understand these terms as the same as in connection with the Aryan or with the agglutinative languages. In polysynthetic tongues they are not intended to form words, but sentences ; not to express an idea, but a proposition. This is a fundamental, logical distinction between the two classes of languages."

In Iroquoian and Algonquian speech the names of the parts of the body are not inseparably connected with " possessive pronouns," nor do they employ " numeral terminations " to indicate the " nature of the objects counted." Dr. Brinton endeavors to make a distinction between " prefixes, suffixes, and juxtaposition," when used in reference to Aryan and agglutinative languages and when they refer to flexions in Indian languages, on the erroneous

ground that in polysynthetic tongues their function is "not to form words, but sentences; not to express an idea, but a proposition." A more misleading statement or a more lamentable confusion of terms regarding the function and use of flexions in language it would be difficult to equal. There is nothing in the use and historical development of flexional and formative elements in those Indian languages which have been thoroughly studied by the scientific methods of modern linguistics to warrant the assumption that formatives and flexions are employed solely for the purpose of forming sentences, and that they do not compose essential parts of words. Such a contention can rest solely on the tremendous assumption that every Indian necessarily knows the etymology—the component parts or constitutive elements—of each word he employs. The science of language stands opposed to such fanciful assumptions. Moreover, this is another proof, if such be needed, that the doctrine of polysynthesis rests on a fundamental misconception of the phenomena of linguistic growth and development, for its methods and means of linguistic growth do not conform to those established by the science of language. In a science so well constituted as is that of comparative linguistics, groundless assumptions should be avoided. In a science of this character, research to be fruitful of substantial and trustworthy results must converge toward a self-sustaining and continuous development. The findings of to-day must enlarge without overturning the conceptions of yesterday, and thenceforward there must be "system, but no systems;" facts and reasons must take the place of authorities. But, in the fruitful field of American Indian linguistics, there appears to be no common method or system of study, and for this reason every important question pertaining to these tongues is in dispute, with no recognized criterion by which the accuracy and trustworthiness of any result, system, or conclusion may be tested. This is the soil in which controversy flourishes. It is too much the custom to quote authors rather than to give facts, although the authors quoted may or may not have known a reason for what they wrote.

After citing from Lacombe's Cree Grammar an analysis of a nominal compound-stem, Dr. Brinton remarks, in referring to the constitutive elements thus found:

"Not a single one of the above elements can be employed as an independent word. They are all only the raw material to weave into and make up words."

And, from Father Montoya's *Tesoro de la Lengua Guarani*, he adopts the following remarkable statement:

"The foundation of this language consists of particles, which frequently have no meaning if taken alone; but when compounded with the whole or parts of others (for they cut them up a great deal in composition) they form significant expressions; for this reason there are no independent verbs in the language, as they are built up of these particles with nouns and pronouns."

Then Dr. Brinton says:

"This analysis, which Montoya carries much further, reminds us forcibly of the extraordinarily acute analysis of the Cree (Algonkin) by Mr. James Howse. Undoubtedly the two tongues have been built up from significant particles (not words) in the same manner." *

This species of "extraordinarily acute analysis" amounts virtually to this, that it finds in certain languages "significant expressions," formed by compounding together certain meaningless particles with fragments of other equally meaningless particles, and this, it is claimed, is the method of word-forming pervading the Indian languages. This is romance and not comparative grammar. Words can be modified by other words only. Relations of ideas must necessarily be indicated by words which, by the tropic action of metaphor, will eventually be formatives and flexions.

Abandoning his first but truer impressions of these Indian tongues, expressed ten or twelve years earlier in his report, Duponceau, in his Mémoire, adopts the fallacious doctrine since called holophrasis. Here (p. 249) he says:

"The grammatic forms of these languages are in perfect harmony with the method in which they form their words; the same system rules everywhere; and everywhere one sees the absence of the spirit of analysis. *We had believed at one time that analysis should precede synthesis;* but *more profound researches* and *deeper reflections* have convinced us that the synthetic forms that characterize these idioms result from the inability of those who formed them to analyze the concrete ideas which presented themselves to their imagination, and they have sought to express them *en masse,* as they have perceived them."

This, in short, is the foundation of Dr. Lieber's doctrine of holophrasis and adopted by Dr. Brinton. It is due wholly to a confounding of the analytic mode of expression with mental analysis.

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* P. 82.

In arguing from a theoretic standpoint against the doctrine of a primitive oligo- or monosyllabic stage of development in the Indo-European family of languages, the late M. Renan follows the same line of argument that Dr. Lieber adopted in support of holophrasis. M. Renan says (Origin of Language, seventh chapter) :

"Another characteristic which the progress of comparative philology authorizes us to attribute to primitive language, as in general to creations of the primitive human mind, is the synthesis and exuberance of its forms. It is too often imagined that simplicity, which, relative to our analytic processes is anterior to complexity, is also anterior in the order of time. This is a vestige of the old usages of the scholastics and of the artificial method which logicians employ in psychology. * * * Far from this beginning by analysis, the first act which it (the mind) proposes is, on the contrary, complex, obscure, synthetic; all is heaped together and indistinct. * * * The idea is expressed at first with its entire *cortege* of determinatives and in a perfect unity. * * *

" The history of different systems of conjugation gives place for analogous considerations. In our modern languages the subject, the verb, and the several relations of time, mode, and voice, are expressed by isolated and independent words. In ancient languages, on the contrary, these ideas are most often comprised in one single word ; *amabor* contains the idea of *to love*, the indication of the first person, that of the future, and that of the passive. * * *

"Agglutination must have been the dominant process of the language of primitive men, as synthesis, or rather syncretism, was the characteristic of their thought."

The criticism of these views by the distinguished linguist, Prof. W. D. Whitney, is cogent and effective ; and since the argument of Professor Whitney embodies the writer's views on the subject of holophrasis as defined by Dr. Lieber, it will be given here entire. Professor Whitney says:

" The synthetic forms which we are asked to regard as original have not the character of something indistinctly heaped together ; they contain the clear and express designation of the radical idea and of its important relations ; they represent by a linguistic synthesis the results of a mental analysis. The idea is, indeed, *conceived* in unity, involving all its aspects and relations ; but these cannot be separately *expressed* until the mind has separated them, until practice in the use of language has enabled it to distinguish them, and to mark each by an appropriate sign. In *amabor*, the (Latin) word cited as an example of synthesis, are contained precisely the same designations as in the equivalent English analytic phrase, "I shall be loved ;" *ama* expresses "loving ;" *bo* unites future-sign and ending designating the first person ; and the *r* is

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the sign of passivity.   Who can possibly maintain that a system of such forms, gathered about a root, exhibits the results of experience, of developed acuteness, in thought and speech, any less clearly than the analytic forms of our English conjugation ? The two are only different methods of expressing the same 'array of determinatives.'   The first synthetic mental act, on the contrary, is truly represented by the bare root : There all is, indeed, confused and indiscrete. . . M. Renan, in short, has made a very strange confusion of analytic style of expression with mental analysis: All expression of relations, whether by means that we call synthetic or analytic, is the result and evidence of analysis." *

This reasoning thoroughly dissipates the position taken by Dr. Lieber in support of the doctrine of holophrasis.   Although written in view of the languages of the Indo-European family, it applies with equal force to the languages of the American aborigines, the word-sentences of which are the same in kind with those of the former.

The comparison of linguistic forms to ascertain probable linguistic affinity can be used with extreme caution and to a limited extent only.   The information and data for such a study must be accurate and trustworthy in an unexceptional degree ; even then its results must, in a measure, be necessarily of doubtful value, since the scientific method of the science of language demands that no human nature different from the one we know be made a factor in the problem, and the human organism, under like conditions, acts with more or less uniformity.

Linguistic classification by means of morphologies—grammatic and syntactic accordances alone, like that by the genetic method— the historically traceable identity of elements—is, of course, incompetent and of no force to affirm or to deny identity or possible correspondences among the ultimate elements of some or all linguistic groups—accordances antedating all, even partial, grammatic development, because its right to be rests on the development of the parts of speech and their flexions—the derivative and the syntactic processes ; beyond these, the tokens of the grammatic period, it cannot take us.   This is of course true, because in every language the earliest records of men can carry us back only to a point far distant from the genesis of its peculiar structure and still more distant from the beginnings of human speech.

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* Op, cit., pp. 285, 286.

The foregoing paper was read before the Anthropological Society of Washington. In the discussion which ensued the following remarks were made by Rev. J. Owen Dorsey:

Several weeks ago Mr. Hewitt requested me to examine the assertions of Duponceau and others which have been criticised tonight, in order to ascertain whether those statements agreed with what I had found in the languages of the Siouan and Athapascan families. In consequence of this examination I have been forced to the conclusion that the assertions of Duponceau and others respecting the structure of Indian languages should be modified, so far as the Siouan and Athapascan languages are concerned. A few examples, out of many that I can furnish, must suffice at present, but I think that they will show the justice of my conclusion.

On page 117 of Duponceau's Mémoire it is said:

"Chacun fait un mot à sa manière, qu'il accompagne de signes, et qu'on entend en partie par intuition."

I have yet to find an Indian tribe to which this applies. It is not true that among the Siouan tribes, for instance, spoken language is invariably accompanied by gestures, though signs are made now and then, just as they are made by Frenchmen or Italians in their conversation. Many a time has an Indian crier gone around the village on a dark night, when no gestures could be seen, and yet his words have been understood by the people. No Siouan Indian could "make a word in his own way;" he had to conform to fixed laws, else his speech could not be understood.

On page 118 the same writer observes:

"Ont ils voulu, par exemple, donner un nom à un certain arbre, ils n'ont pas pensé à le désigner simplement par le fruit, ou par quelque autre apparence unique; mais ils ont dit; *l'arbre portant tel* fruit et dont les feuilles ressemblent à telle chose."

No Siouan Indian speaks thus of any of the flora of his land. Of specific tree names in the Biloxi language I have recorded over two dozen, and only in three does the word for tree appear as part of the name, and in each of these three the compound ends with *udi*, trunk or stock. This last word has its equivalent in the tree names of the other Siouan languages. In Dakota, choke-cherries are *chanpa*, and choke-cherry bushes *chanpa-hu*. A plum tree is *kanta-hu* in Dakota (from *kanta*, plum, and *hu*, trunk or stock), and *kande-hi* (from *kande*, plum, and *hi*, trunk or stock), in Dhegiha

Many other tree names could be given, in most of which the name is formed by the simple juxtaposition of the elements.   The alleged expression of case by the inflection of verbs governing nouns does not exist in Siouan languages, unless it applies to the instrumental form of the verb (as *man iui*, he was wounded with or by an arrow: *man*, arrow; *i-*, instrumental prefix to the verb; *u*, to wound), which sometimes has a locative force, as in *dhie dhan iui*, he was wounded *in* the side.   On the contrary, in the Biloxi, the nominative and objective signs are suffixed to nouns and pronouns, instead of being attached to the governing verb.   There are no instances of the "particular plural" in the languages which I have recorded, although the dual often appears in the verb and some other parts of speech.   In Dakota, Dhegiha, etc., there is a first person dual in the verb'; in the Tutu and cognate Athapascan languages of Oregon, the verb has a dual in all three persons, and so has the pronoun. Duponceau speaks of "a new concordance of tense of the conjunction with the verb."   This does not appear in Siouan languages.

A single Cree compound is given as an example of polysynthesis in nouns, and this word is declared by so high an authority as Dr. D. G. Brinton to be a *fair* example.   We should not be content with a single example, especially when that word (the name for cross) seems to be a modern word, introduced after the arrival of the missionaries.   Just here let me quote Dr. Brinton.   On page 21 of his article on Polysynthesis and Incorporation he says:

"While the genius of American languages is such that they permit and many of them favor the formation of long compounds which express the whole of the sentence in one word, this is by no means necessary. Most of the examples of words of ten, twenty or more syllables are not genuine native words, but novelties manufactured by the missionaries."

I know by experience how difficult it is for a missionary to convey to the minds of his hearers certain religious ideas.   Again and again did I try when missionary to the Ponka Indians to find the proper Indian word for *kingdom*, in order to make even an approximate translation of the petition, "Thy kingdom come."   The Cree word for cross (if it be, as I suspect, a modern word) is as poor an illustration of what the author contemplated as is the Mexican name for *goat* given by Dr. Whitney on page 348 of his work entitled "Language and the Study of Language," as there is no species of goat indigenous to the Western hemisphere.   Any one who has lived among Indians knows the worthlessness of adducing modern

names (*i. e.*, names of objects introduced among the Indians since the arrival of the white race on this continent) for the purpose of illustrating the structure of an Indian language. As far as I can judge from such illustrations of polysynthesis in nouns, no such process occurs in the Siouan languages, nor can I recall any instance of it in the Athapascan languages of Oregon.

Dr. Brinton refers to "generic formatives," by which, I suppose, he means classifiers. These classifiers are found in the Athapascan and Siouan languages, and they perform several functions: sometimes they indicate to what classes objects belong (the sitting, standing, reclining, etc., of the Athapascan and Siouan; the earthy, mushy, watery, stony, etc., of other languages); sometimes they distinguish between the subject and the object of an action, etc. Numeral terminations, indicating the nature of the objects counted, are unknown in the Siouan languages; but in the Athapascan languages of Oregon there are two series of numerals, the human and the non-human.

We are told that polysynthesis is a characteristic which distinguishes American Indian languages from those of the old world. Is there nothing of the nature of so-called polysynthesis in the Aryan languages? In Greek, δεισιδαίμων is explained by ὁ τοὺς δαίμονας δείσας; ἐπιχαιρέκακος by ὁ τοῖς κακοῖς 'ἐπιχαίρων; κακοδαίμων by 'ο κακὸν δαίμονα ἔχων; ἔνθεος by 'ο τὸν θεὸν 'εν ἑαυτῷ ἔχων (Kühner, Greek Gr., New York, 1864, p. 296). The Sanscrit was especially distinguished by its power of forming compounds of any length, and one of the greatest difficulties of the language lies in the finding out the exact relation of the different parts. Thus, a Hindu could speak of a man as being "tiger-king-hand-sword-killed" (a very moderate compound). This would mean "killed by a sword in the hand of a king who was like a tiger."*

On pages 16 and 17 of the article on polysynthesis and incorporation Dr. Brinton says:

"As the holophrastic method makes no provisions for the syntax of the sentence outside the expression of action (*i. e.*, the verbal and what it embraces), nouns and adjectives are not declined. The 'cases' which appear in many grammars of American languages are usually indications of space or direction or of possession and not case-endings in the sense of Aryan grammar."

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*Peile, Philology, N. Y., 1877, pp. 77, 78.

What are case-endings in the sense of Aryan grammar? Kühner informs us that "all the relations which the Greek denotes by the genitive, dative, and accusative were originally considered relations of *space*." * The relations of time and causality also were regarded as relations of *space*. Whitney remarks that out of the seven cases "three of them distinctly indicated local relations: the ablative denoted the relation expressed by *from;* the locative that expressed by *in;* the instrumental that expressed by *with* or *by*." † To these Peile adds the dative, denoting the relation expressed by *to* or *towards*.‡ Can any one explain away these words of Kühner, Whitney, and Peile?

The learned author of "Polysynthesis and Incorporation" informs us that "a further consequence of the same method" (*i. e.*, his method of polysynthesis) "is the absence of true relative pronouns, of copulative conjunctions, and generally of the machinery of dependent clauses." In Siouan languages there are copulative conjunctions. That there are words which perform the functions of relative pronouns may be seen from the following sentences:

Mazhan dhan ankikandhai   te   andhia tangatan ebdhegan—I
Land   the   we desire for   the   we fail   we shall   I think
              ourselves   (which)

think that we shall fail to obtain the land which we desire for ourselves.

Nuzhinga   dhii   dhinke   e   azhi   ha.   Panka   azhi
Boy   gave it   he who   that one   another   Ponka   another
       to you   (aforesaid)

shange   tan   ihan   tan   adhin   aka   e   gdhizai
horse   the   his   the   has   he who   that one   took
       standing   mother   standing   (subject)   (aforesaid)   his own

shangetazhinga—The youth who gave it to you is not the one (who
    colt

now has the stray colt). He who has taken it is the Ponka who has the colt's mother.

Unless one has before him one or more series of sentences, such as occur in myths or epistles, he is hardly in the position to speak with authority, at least so far as dependent clauses are concerned.§

* Op. cit., p. 373.

† Op. cit., pp. 271, 272.

‡ Op. cit., pp. 102-106.

§ For examples of dependent clauses in the Siouan languages see my Madison address, "The Biloxi Indians of Louisiana," p. 16, and "Contributions to North American Ethnology," vol. 6, pp. 582, 585, *et passim*.

On page 16 Dr. Brinton says that "the subject is usually a pronoun inseparably connected or, at least, included within the tense sign," and in the same paragraph he speaks of the tense sign preceding the subject. This cannot apply to Siouan languages. In those languages the tense sign, when any is used, follows the subject, and is usually near the end of the clause or sentence.

An-wan-khpa-ni, "I am poor," in Dhegiha cannot be "My being poor," as the pronominal fragment is *anwan*, which is objective, as shown by the vowel *a*, whereas the possessive and dative of the first person would have the vowel *i*.

MENOMONI CULT SOCIETY.—The last annual meeting of the Menomoni cult society, usually designated as the Grand Medicine Society, shows conclusively that its days are numbered. The Government has been endeavoring to dissuade this tribe, as well as the Ojibwa and others of the Algonquian linguistic stock, from holding such meetings and to adopt some creed of Christian faith. Neither the Government nor the church has shown much power in this direction, but the society will become extinct of its own accord, as the old men, the fanatical pagans, are rapidly dying off, while the young men take but little interest in the ceremonies, looking upon them as farcical and of no special consequence.

The Menomoni society initiate a new member whenever death removes one from its fold. The initiates, both this year and last, were little girls, the last one to enter being only four years of age and not sufficiently vigorous to bear the strain of an ordeal of twenty-four hours. Women and girls are now, no doubt, in excess, the male membership consisting of the eldest and most decrepid men of the tribe.

W. J. HOFFMAN.

THE PENNSYLVANIA-GERMAN SOCIETY will hold its annual meeting at York, Penna., about October 14. The society is in a very flourishing condition, has a large membership, and was organized several years ago for the purpose of collecting and preserving all facts relating to the early settlement of the State, the former customs and folk-lore of the people, etc. The society publishes an annual report of operations.

"La Mensuration du Cou."—In Tome VI, No. 10, 1893, of *Mélusine*, there is an interesting article, the joint production of MM. Gaidoz and Perdrizet, on the size of the neck as an index of nubility and virginity in both male and female persons in the popular beliefs current among various folk. Citations are given from various authors, among others, C. Valerius Catullus, Vossius, Scaliger, Ellis, describing the custom of measuring the neck. The question was discussed in 1888 by the "Société d'Anthropologie de Paris," and the discussion was published in the *Bulletin de la Société d'Anthropologie de Paris*, 4th series, Tome XI (1888), pp. 459 et 472. The following quotation from the article will show its nature : "Aiez une éguillée de fil blanc, mesurez avec ce fil la grosseur du cou de la fille, puis vous doublerez cette mesure, et vous en ferez tenir les deux bouts à la fille avec ses dents, et vous étendrez ladite mesure pour faire passer sa tête ; si la tête passe trop aisément, elle est corrompue ; si elle ne passe qu'à peine, assurez-vous qu'elle est pucelle." *Secrets merveilleux de la magie naturelle et cabalistique du Petit Albert*, etc., 1743, 21 p. Among the Kabyles the puberty of young men is determined solemnly in this manner, according to the excellent work of MM. Honoteau and Letourneau, "La Kabylie."

<div align="right">J. N. B. Hewitt.</div>

The Terraba Language.—The Terraba or Tiribi Indians form at present a small cluster of aborigines dwelling on the wést or Pacific side of Costa Rica, Central America. They speak a dialect related to all the other Costa Rican languages, which form one family, and are themselves related to many of the South American tongues of the Maipure connection. H. Pittier, professor of the physico-geographic institute at San José, the capital, calls it neither harmonious nor elegant, but harsh in sound and for us unpronounceable in many of its terms. Another name for it, as he states, is "the idiom of Brurán." With C. Gagini he, in 1892, published an "Ensayo lexicografico sobre la lengua De Térraba," printed at the government printing office at San José, and containing, in ninety pages, the grammatic elements, a long list of words, phrases, sentences, and two correspondences, with interlinear translation.

<div align="right">A. S. Gatschet.</div>